--13. A signal transmission and reception apparatus for transmitting and receiving a VSB signal, said transmission and reception apparatus comprising a transmission apparatus and a reception apparatus,

said transmission apparatus comprising:

a modulator operable to modulate a first data stream and a second data stream, such that the number of signal points of the first data stream in a signal space is different from the number of signal points of the second data stream in the signal space and the first data stream has data for demodulation including information representing the number of signal points of the second data stream in a signal space, to produce a VSB modulation signal, said modulator comprising an allocator operable to allocate code points along a uniaxial modulation coordinate system, and a filter, having a plurality of coefficients which are a series of impulse responses defined by plotting time base responses to the VSB modulation signal along the in-phase axis and its orthogonal axis, operable to filter a series of the code points allocated along the uniaxial modulation coordinate system; and

a transmitter operable to transmit the VSB modulation signal;

said reception apparatus comprising:

a receiver operable to receive a transmitted VSB modulation signal; and

a demodulator operable to demodulate the VSB modulation signal, received by said receiver, into the first and second data steams, and to demodulate the second data stream according to the data for demodulation in the first data stream.

14. A signal transmission apparatus for transmitting a VSB signal, said signal transmission apparatus comprising:

a modulator operable to modulate a first data stream and a second data stream, such that the number of signal points of the first data stream in a signal space is different from the number of signal points of the second data stream in the signal space and such that the first data stream has data for demodulation including information representing the number of signal points of the second data stream in a signal space, to produce a VSB modulation signal, said modulator comprising an allocator operable to allocate code points along a uniaxial modulation coordinate system, and a filter, having a plurality of coefficients which are a series of impulse responses defined by plotting time base responses to the VSB modulation signal along the in-phase axis and its orthogonal axis, operable to filter a series of the

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code points allocated along the uniaxial modulation coordinate system; and

a transmitter operable to transmit the VSB modulation signal.

15. A signal reception apparatus comprising:

a receiver operable to receive a transmitted VSB modulation signal having information of a first data stream and a second data stream, wherein the number of signal points of the first data stream assigned in a signal space is different from the number of signal points of the second data stream in the signal space and the first data stream has data for demodulation including information representing the number of signal points of the second data stream in a signal space; and

a demodulator operable to demodulate the VSB modulation signal into the first and second data streams, and to demodulate the second data stream according to the data for demodulation in the first data stream.

16. A signal transmission and reception method for transmitting and receiving a VSB signal, said transmission and reception method comprising:

modulating a first data stream and a second data stream to produce a VSB modulation signal such that the number of signal points of the first data stream in a signal space is different from the number of signal points of the second data stream in the signal space and such that the first data stream has data for demodulation including information representing the number of signal points of the second data stream in a signal space;

allocating code points along a uniaxial modulation coordinate system;

filtering, with a filter having a plurality of coefficients which are a series of impulse responses defined by plotting time base responses to the VSB modulation signal along the in-phase axis and its orthogonal axis, a series of the code points allocated along the uniaxial modulation coordinate system;

transmitting the VSB modulation signal;

receiving the transmitted VSB modulation signal; and

demodulating the VSB modulation signal into the first and second data steams, and demodulating the second data stream according to the demodulation information in the first data stream.

17. A signal transmission method for transmitting a VSB signal, said signal transmission method comprising:

modulating a first data stream and a second data stream, such that the number of signal points of the first data stream in a signal space is different from the number of signal points of the second data stream in the signal space and such that the first data stream has data for demodulation including information representing the number of signal points of the second data stream in a signal space, to produce a VSB modulation signal;

allocating code points along a uniaxial modulation coordinate system;

filtering, with a filter having a plurality of coefficients which are a series of impulse responses defined by plotting time base responses to the VSB modulation signal along the in-phase axis and its orthogonal axis, a series of the code points allocated along the uniaxial modulation coordinate system; and

transmitting the VSB modulation signal.

18. A signal reception method comprising:

receiving a transmitted VSB modulation signal having information of a first data stream and a second data stream, wherein

the number of signal points of the first data stream assigned in a signal space is different from the number of signal points of the second data stream in the signal space, and the first data stream has data for demodulation including information representing the number of signal points of the second data stream in a signal space; and

demodulating the VSB modulation signal into the first and second data streams, and demodulating the second data stream according to the demodulation information in the first data stream.--